

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1-23. (Canceled)

24. (**Previously presented**) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a chamber (3),
- a cone (4) providing a seat for mounting a vessel within said chamber, said cone (4) having a groove (5) on its exterior surface in the region of the seat of the vessel (2), and having conduit means for communicating, via a feed line (7), an interior region of a vessel seated on the cone with a gas supply (6) or pump (10) located outside the chamber (3);
- a pump (9) and/or a gas supply (11) connected to the chamber (3); and
- a plasma source (8) mounted on the outside of the chamber (3) and operable to excite plasma in the chamber.

25. (**Previously presented**) The apparatus of claim 24, further comprising

- said groove (5) having means for controlling the gas flowing through said groove between an interior region of a vessel seated on said cone and an interior region of said chamber (3).

26. (**Currently amended**) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a chamber (3),
 - chain link transportation means for supporting a plurality of vessels for transportation into ~~a~~ the chamber (3), and a duct (23) acting as a suction removal or gas supply rail disposed as a vessel mount, on which the vessels (2) are carried virtually in pressure-tight fashion, and said duct (23) being connected for with a gas supply (6) or pump (10) located outside the chamber (3);
 - a pump (9) and/or a gas supply (11) connected to said chamber (3); and
 - a plasma source (8) mounted on the outside of the chamber (3).

27. (**Currently amended**) An apparatus for sterilizing vessels by the excitation of a plasma in or on the vessels by the spatial and/or chronological selective excitation of the plasma in various regions which contact walls of the vessel, the apparatus comprising,

- a chamber (3),

- a transport box (30) having a plurality of holes (31) therein for receiving and transporting a plurality of vessels (2) into ~~a~~ the chamber (3), and said vessels (2) being seated with their openings virtually in pressure-tight fashion, said transport box (30) including a bottom flange for communication with a gas supply (6) or pump (10) located outside the chamber (3);
 - a pump (9) and/or a gas supply (11) connected to the chamber (3); and
 - a plasma source (8) mounted on the outside of the chamber (3).

28. (**Previously presented**) The apparatus of claim 24, wherein

- the vessels (2) to be sterilized are of glass or plastic.

Claims 29-32. (**Canceled**)

33. (**New**) A method for sterilizing vessels, comprising:

placing a vessel to be sterilized inside a chamber in which at least a partial vacuum can be produced, said vessel having an interior area and an exterior area;

introducing a gas suitable for exciting a plasma into the chamber and into the interior area of the vessel;

establishing and maintaining a gas pressure gradient between gas pressure in the interior area of the vessel and gas pressure at the exterior area of the vessel inside the chamber such that the plasma can be excited only in a first region of the vessel, said first region being either the interior area of the vessel or the exterior area of the vessel;

exciting the plasma for a length of time sufficient to effect sterilization in only the first region of the vessel;

adjusting the pressure gradient between the gas pressure in the interior area of the vessel and the gas pressure at the exterior area of the vessel inside the chamber such that the plasma can be excited only in a second region of the vessel, the second region being the other of the interior area of the vessel and the exterior area of the vessel, while simultaneously extinguishing the excitation of the plasma in the first region of the vessel; and

exciting a plasma for a length of time sufficient to effect sterilization in only the second region of the vessel.

34. (New) The method of claim 33, wherein the gas suitable for exciting a plasma is introduced into the interior area of the vessel via a feed line shielded from the interior of the chamber.

35. (New) The method of claim 34, further comprising establishing a flow of gas out of the vessel into the chamber, evacuating gas from the chamber by suction and exciting the plasma in the interior area of the vessel before a plasma is excited in the exterior area of the vessel by maintaining the gas pressure in the interior area of the vessel at an adequate level such that a plasma can be excited in the interior area of the vessel while simultaneously maintaining the gas pressure inside the chamber at a level too low to excite a plasma, even when there is a flow of gas out of the vessel into the chamber and an ensuing removal of gas from the chamber by suction.

36. (New) The method of claim 34, further comprising initially evacuating said chamber, and then introducing gas into the interior area of the vessel for exciting the plasma in the interior area.

37. (New) The method of claim 35, further comprising initially evacuating said chamber, and then introducing gas into the interior area of the vessel for exciting the plasma in the interior area.

38. (New) The method of claim 36, further comprising the step of supplying a gas into the chamber for exciting a plasma in the chamber and thus on the exterior area of the vessel as well, with simultaneous extinguishing of the plasma in the interior area of the vessel.

39. (New) The method of claim 33, further comprising the steps of establishing at least a partial vacuum in the interior area of the vessel, via a feed line shielded from the chamber, and, thereafter, establishing and maintaining a gas pressure in the interior area of the vessel such that a plasma is excited and maintained for a length of time in the interior area of the vessel sufficient to effect sterilization in only the interior area of the vessel while simultaneously maintaining the gas pressure inside the chamber at a level too high to excite a plasma.

40. (New) The method of claim 39, wherein said gas pressure and said plasma in the interior area of the vessel are maintained by making the pressure in the interior area of the vessel sufficiently low compared to the pressure in the chamber to enable a plasma to be excited in only the interior area of the vessel, even when there is a flow of gas out of the chamber into the vessel and an ensuing removal of gas from the vessel by suction.

41. (New) The method of claim 39, comprising the step of supplying the chamber with the gas, and, thereafter, evacuating the vessel until the plasma in the interior area of the vessel is excited as a result of the incoming flow of the gas from the chamber.

42. (New) The method of claim 41, comprising the further method steps of stopping the supply of gas into the chamber and exciting a plasma in the chamber, and hence on the exterior area of the vessel as well, while simultaneously extinguishing the plasma in the interior area of the vessel.

43. (New) The method of claim 40, comprising the step of supplying the chamber with the gas, and, thereafter, evacuating the vessel until the plasma in the interior area of the vessel is excited as a result of the incoming flow of the gas from the chamber.

44. (New) The method of claim 43, comprising the further method steps of stopping the supply of gas into the chamber and exciting a plasma in the chamber, and hence on the

Appl. No. 09/890,532
Amdt dated Oct. 13, 2006
Reply to Office action of July 13, 2006

exterior area of the vessel as well, while simultaneously extinguishing the plasma in the interior area of the vessel.